

SERIAL NUMBER	FILING DATE	INVENTOR(S)	DOCKET NO.
10/023,465	12/04/01	William L. Lundy	Perox-Chelant
EXAMINER	ART UNIT	SUBJECT	MAILED
Kreck, John J.	3673	Office Letter	11/18/03
TITLE OF INVENTION: In Situ Subsurface Decontamination Method			

TO: Commissioner of Patents  
PO Box 1450  
Alexandria, VA 22313-1450  
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IN THE CLAIMS

Please cancel with out prejudice the claims now present in the application. Please add the following new claims:

16. (New) A method of decontaminating soil and ground water containing organic contaminants and an iron compound, which comprises the steps of:

treating such soils and ground water with an effective amount an alkaline aqueous solution which has a pH of at least 7 and contains an alkaline buffering agent, a peroxide and a water-soluble aminopolycarboxylate- chelating agent for a time sufficient to have the water-soluble aminopolycarboxylate- chelating agent chelate the iron of the iron compound present in the soils and ground water;

reacting the chelated iron with the peroxide to catalytically convert the peroxide to an oxidizing agent; and then,  
contacting the organic contaminants in the soil and ground water with the oxidizing agent to oxidize the organic contaminants to environmentally safe, non-toxic compounds.

17. (New) The method of claim 16 where the alkaline buffering agent is an alkaline phosphate and urea phosphate.

18 (New) The method of claim 16 where the pH of the alkaline aqueous solution is between 7.0 and 9.5

19.(New) The method of Claim 16, where the water-soluble aminopolycarboxylate-chelating agent is an alkylenepolyamine polyarboxylate chelating agent.

20. (New) A method of decontaminating soil and ground water containing organic contaminants and an iron compound, which comprises the steps of:

treating such soils and ground water with an effective amount an alkaline solution which has a pH between 7.0 and 9.5 and contains a phosphate and urea phosphate buffering agent, a peroxide and a water soluble aminocarboxylate- chelating agent for a time sufficient to have the water-soluble aminopolycarboxylate- chelating agent chelate the iron of the iron compound present in the soils and ground water;

reacting the chelated iron with the peroxide to catalytically convert the peroxide to an oxidizing agent; and then,

contacting the organic contaminants in the soil and ground water with the oxidizing agent to oxidize the organic contaminants to environmentally safe, non-toxic compounds.

21. The method of Claim 20. where the water-soluble aminopolycarboxylate-chelating agent is an alkylenepolyamine polyarboxylate chelating agent.

### Claim Analysis

Claim 16 corresponds to Amended Claim 1 presented in the last Amendment but contains the additional features:

- (a) the alkaline aqueous solution contains an alkaline buffering agent : and,
- (b) the divalent metal is limited to iron.

Claims 17, 18 and 19 depend on claim 16 with :

- (a) claim 17 showing the buffering agent to be a phosphate or a urea phosphate;
- (b) claim 18 limits the pH of the alkaline aqueous solution to between 7.0 and 9.5;
- (c) claim 19 shows the chelating agent to be an alkylenepolyamine polycarboxylate

Claim 20 contains all the elements of claim 16-18.

Claim 21 depends on claim 20 and corresponds to claim 19

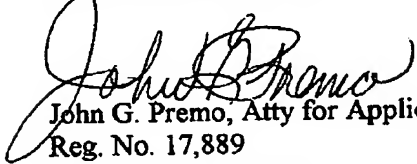
### REMARKS

The rejection of claims 1,2,4-8 and 10-15 has been overcome by their cancellation. The objections to claims 11 and 12 are believed to have been corrected by their presentation as set forth above.

The pH of the alkaline solution is critical. Note the outstanding results in the Examples presented in the specification. The pH is adjusted independently of the pH of the soil treated as is the teaching of Pignatello.

The application is believed to be in condition for allowance.

Respectfully submitted,



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